



## Department of Energy

Argonne Area Office  
9800 South Cass Avenue  
Argonne, Illinois 60439

APR 18 1988

U. S. Environmental Protection Agency  
Region V  
Pre-Remedial Unit  
ATTN: Jeannie Griffin  
230 S. Dearborn Street  
Chicago, Illinois 60604

EPA Region 5 Records Ctr.




341936

Gentlemen:

Enclosed please find completed preliminary assessment (PA) forms and supporting references for various facilities at Argonne National Laboratory (ANL). Preliminary hazard ranking system scores have been calculated for most of the units and are included among the enclosures. Each PA form is accompanied by a PA summary sheet indicating ANL's conclusion regarding the need for further action (e.g., site inspection (SI)). For those units which appear to require further characterization, ANL is proceeding to assemble SI-type data, pursuant to both its own site environmental monitoring program and the sampling and analysis phase of the recent Assistant Secretary for Environment, Safety, and Health Environmental Survey. Some of these data are included in the enclosures, although they have not yet been compiled on the SI forms. We would appreciate your concurrence on which sites require formal SIs as soon as possible.

If you have any questions, please contact Barrett Fritz, of our Environment, Safety, and Health Division, at 972-2271.

Sincerely,

  
A. L. Taboas  
Area Manager

Enclosure:  
As Stated

cc: R. Green, HQ, EH-232/FORSTL, w/encl.  
S. Woodbury, HQ, EH-232/FORSTL, w/o encl.



Celebrating the U.S. Constitution Bicentennial — 1787-1987



**POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 1 - SITE INFORMATION AND ASSESSMENT**

**I. IDENTIFICATION**

01 STATE 02 SITE NUMBER  
IL 3890008946

**II. SITE NAME AND LOCATION**

01 SITE NAME (legal, common, or descriptive name of site)  
Argonne National Laboratory-Illinois (ANL-IL)  
Gasoline Station-Gasoline Spill

02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER

9700 South Cass Avenue

03 CITY

Argonne

04 STATE

IL

05 ZIP CODE

60439

06 COUNTY

DuPage

07 COUNTY CODE

043

08 CON-  
DIST

13

09 COORDINATES LATITUDE

41°42'30.0"

LONGITUDE

-87°59'11.0"

10 DIRECTIONS TO SITE (starting from nearest public road)

SEE CONTINUATION SHEET

**III. RESPONSIBLE PARTIES**

01 OWNER (if known)

U.S. Department of Energy (DOE-CH)

02 STREET (business, mailing, residential)

9800 South Cass Avenue

03 CITY

Argonne

04 STATE

IL

05 ZIP CODE

60439

06 TELEPHONE NUMBER

(312) 972-2271

07 OPERATOR (if known and different from owner)

Argonne National Laboratory

08 STREET (business, mailing, residential)

9700 South Cass Avenue

09 CITY

Argonne

10 STATE

IL

11 ZIP CODE

60439

12 TELEPHONE NUMBER

(312) 972-3998

Aubrey Smith  
Envir. Compli-  
ance Officer

13 TYPE OF OWNERSHIP (Check one)

☐ A. PRIVATE☒ B. FEDERAL

DOE-CH

(Agency name)

☐ C. STATE☐ D. COUNTY☐ E. MUNICIPAL☐ F. OTHER☐ G. UNKNOWN

(Specify)

14 OWNER-OPERATOR NOTIFICATION ON FILE (Check all that apply)

☐ A RCRA 3001 DATE RECEIVED: MONTH DAY YEAR

DATE RECEIVED: MONTH DAY YEAR

☐ B UNCONTROLLED WASTE SITE (RCRA 105) DATE RECEIVED: MONTH DAY YEAR

DATE RECEIVED: MONTH DAY YEAR

☒ C NONE**IV. CHARACTERIZATION OF POTENTIAL HAZARD**

01 ON SITE INSPECTION

☒ YES

DATE

2/10/86

☐ NO

BY (Check all that apply)

☐ A. EPA☐ B. EPA CONTRACTOR☐ C. STATE☐ D. OTHER CONTRACTOR☐ E. LOCAL HEALTH OFFICIAL☒ F. OTHER

ANL-IL

(Specify)

CONTRACTOR NAME(S)

02 SITE STATUS (Check one)

☒ A. ACTIVE☐ B. INACTIVE☐ C. UNKNOWN

03 YEARS OF OPERATION

1975

currently  
operating

BEGINNING YEAR

ENDING YEAR

☐ UNKNOWN

04 DESCRIPTION OF SUBSTANCES POSSIBLY PRESENT, KNOWN, OR ALLEGED

Approximately 20 gallons of gasoline spilled onto the asphalt paved driveway-parking area of the Gasoline Station located within the ANL-IL facility.

05 DESCRIPTION OF POTENTIAL HAZARD TO ENVIRONMENT AND/OR POPULATION

Potential for soil contamination and groundwater contamination. Surface run-off was stopped by prompt response actions.

**V. PRIORITY ASSESSMENT**

01 PRIORITY FOR INSPECTION (Check one. If high or medium is checked, complete Part 2 - Site Information and Part 3 - Description of Hazardous Conditions and Standards)

☐ A. HIGH

(Inspection required promptly)

☐ B. MEDIUM

(Inspection required)

☐ C. LOW

(Inspect on time available basis)

☒ D. NONE

(No further action needed; complete current disposition form)

**VI. INFORMATION AVAILABLE FROM**

01 CONTACT

Barry Fritz

02 OF (Agency/ Organization)

DOE-CH,  
Operational & Envir. Safety Division

03 TELEPHONE NUMBER

(312) 972-2271

04 PERSON RESPONSIBLE FOR ASSESSMENT

C. L. Cheever

05 AGENCY

DOE

06 ORGANIZATION

ANL-IL

07 TELEPHONE NUMBER

(312) 972-3311

08 DATE

04/08/88

MONTH DAY YEAR

CONTINUATION SHEET

Part 1 - Site Information and Assessment

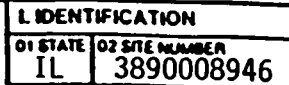
ANL-IL

IL 3890008946

Gasoline Station-Gasoline Spill

Directions to Site:

From I-55, exit Cass Ave. south. Turn west on Northgate Road to enter facility. Follow Northgate Road south to Inner Circle Road and turn west. Turn south on Meridian Road. The gas station is at the intersection of Meridian Road and Outer Circle Road. The spill occurred at the south end of the parking lot.



**03 WASTE CHARACTERISTICS** (Check all that apply)

<input checked="" type="checkbox"/> A TOXIC	<input type="checkbox"/> E SOLUBLE	<input checked="" type="checkbox"/> I HIGHLY VOLATILE
<input type="checkbox"/> B CORROSIVE	<input type="checkbox"/> F INFECTIOUS	<input type="checkbox"/> J EXPLOSIVE
<input type="checkbox"/> C RADIOACTIVE	<input checked="" type="checkbox"/> G FLAMMABLE	<input type="checkbox"/> K REACTIVE
<input type="checkbox"/> D PERSISTENT	<input type="checkbox"/> H IGNITABLE	<input type="checkbox"/> L INCOMPATIBLE
		<input type="checkbox"/> M NOT APPLICABLE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	ONLY WASTE	20	gallons	unleaded gasoline
SOL	SOLVENTS			
PSO	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

[illegible]

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

## EPA FORM 2070 12 (7-81)



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER  
IL 3890008946

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☒ A GROUNDWATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED 32,000

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

SEE CONTINUATION SHEET

01 ☐ B SURFACE WATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED \_\_\_\_\_

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ C CONTAMINATION OF AIR  
03 POPULATION POTENTIALLY AFFECTED \_\_\_\_\_

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ D FIRE/EXPLOSIVE CONDITIONS  
03 POPULATION POTENTIALLY AFFECTED \_\_\_\_\_

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☐ E DIRECT CONTACT  
03 POPULATION POTENTIALLY AFFECTED \_\_\_\_\_

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

01 ☒ F CONTAMINATION OF SOIL  
03 AREA POTENTIALLY AFFECTED 0.20

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

The gasoline and the water used to wash down the spill ran into a drainage swale along the west side of Meridian road. Sand dams were placed in the swale to block the flow of the gasoline, this sand may have become contaminated. The sand was later removed and disposed of properly.

01 ☒ G DRINKING WATER CONTAMINATION  
03 POPULATION POTENTIALLY AFFECTED 32,000

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

SEE CONTINUATION SHEET

01 ☒ H WORKER EXPOSURE/INJURY  
03 WORKERS POTENTIALLY AFFECTED 20 employees

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☒ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

Employees onsite responded to the spill, prevented surface runoff to the nearby creek, and flushed the driveway to avoid fire. No employee exposure or injury occurred in this spill.

01 ☐ I POPULATION EXPOSURE/INJURY  
03 POPULATION POTENTIALLY AFFECTED \_\_\_\_\_

02 ☐ OBSERVED (DATE \_\_\_\_\_) ☐ POTENTIAL ☐ ALLEGED  
04 NARRATIVE DESCRIPTION

## CONTINUATION SHEET

### **Part 3 - Description of Hazardous Conditions and Incidents**

**ANL-IL**

**IL 3890008946**

#### **Gasoline Station-Gasoline Spill**

##### Groundwater Contamination:

The potential for groundwater contamination resulting from this spill does exist. Water was used to wash down the spill in order to avoid a fire. The water and gasoline that did not volatilize may have percolated down into the groundwater. Groundwater in parts of the ANL-IL facility is in the perched condition because of the relative impermeability of the underlying silty clay. This clay can restrict downward water flow and create a lateral perched water flow condition. The groundwater pattern in the area would probably follow the area topography, flowing southeasterly toward the Des Plaines River. Contaminated water may percolate downward into the perched groundwater and migrate in a southeasterly direction. (Ref. (5) p. 2.)

Population = 3,000 employees + 29,000 residents within 3 miles and north of the Des Plaines River.

##### Drinking Water Contamination:

In the vicinity of ANL-IL, only subsurface water (from both shallow and deep aquifers) and Lake Michigan water are used for drinking purposes. The potential for contamination of groundwater used for drinking purposes does exist. Two principle aquifers are used as water supplies in the vicinity of ANL-IL. The upper aquifer is the Niagaran-Alexandrian dolomite which is about 200 ft. thick in the ANL-IL area and has a piezometric surface between 50 and 100 ft. below the ground surface. The lower aquifer is the Galesville sandstone which lies between 490 and 1,500 ft. below the surface. Maquoketa Shale separates the aquifers and retards hydraulic connection between the aquifers.

The four domestic water wells currently in use at ANL-IL are about 300 ft. deep in the Niagaran dolomite. Two wells are east of the spill site, one is north of the site, and the other is northeast of the site. The nearest well is approximately 2,800 ft. north of the spill site. The four wells served the more than 3,000 employees at the ANL-IL facility.

(Ref. (1) p. 8, 12, Ref. (2) p. 6, Ref. (5) p. 1-2.)

Population = 3,000 employees + 29,000 residents within 3 miles and north of the Des Plaines River.



POTENTIAL HAZARDOUS WASTE SITE  
PRELIMINARY ASSESSMENT  
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION  
01 STATE 02 SITE NUMBER  
IL 3890008946

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ K. DAMAGE TO FAUNA  
04 NARRATIVE DESCRIPTION (include name(s) of species)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ L. CONTAMINATION OF FOOD CHAIN  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES  
(Spills, runoff/standing liquids/leaking drums)

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: \_\_\_\_\_

04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING  
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: \_\_\_\_\_)

☐ POTENTIAL

☐ ALLEGED

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: SEE CONTINUATION SHEET

IV. COMMENTS

SEE CONTINUATION SHEET

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

SEE CONTINUATION SHEET

## CONTINUATION SHEET

### Part 3 - Description of Hazardous Conditions and Incidents

ANL-IL

IL 3890008946

#### Gasoline Station-Gasoline Spill

##### Total Population Potentially Affected:

32,000 (3,000 employees + 29,000 residents within 3 miles and north of the Des Plaines River. (Ref. (1) p. 8.)

##### Comments:

The gasoline spill was controlled so that no gasoline entered a nearby stream. Contaminated sand used to dam the drainage swale the gasoline had entered, was removed and disposed of properly. Most of the gasoline probably volatilized before the water-gasoline mixture reached the drainage swale. The potential for the soil in the swale to be contaminated with gasoline, or for the gasoline to have reached the groundwater is negligible. As a result, no further action is recommended.

##### Sources of Information:

- (1) 1986 Annual Site Environmental Report for Argonne National Laboratory (Report #ANL-87-9) by N. Golchert and T. Duffy.
- (2) Phase I CERCLA Program, ANL-IL Installation Assessment Report (required by DOE order 5480.14), July 1986.
- (5) ANL-IL Intra-laboratory memo, to N. W. Golchert, from S. Y. Tsai; Subject: Groundwater Monitoring Plan for the 317-319 Area; September 17, 1985.
- (23) ANL-IL Intra-laboratory memo to File, from C. L. Cheever; Subject: Gasoline Spill during tanker truck filling of onsite Sunoco Station Underground Tank, February 6, 1986; dated February 10, 1986.



Summary Report for Preliminary Assessment of the ANL-IL

Gas Station - Gasoline Spill

4/13/88

During tanker truck filling of the underground unleaded gasoline storage tank at the onsite gasoline station, there was an overfilling and spillage of an estimated 20 gallons onto the asphalt parking area. The ANL emergency response was placed into action and by the usage of sand dikes surface runoff to the adjacent creek was prevented.

Assessment of residual contamination is being checked by the DOE Environmental Survey Sampling Team borings.

Recommendation: (1) Evaluate the DOE Sampling Team findings and take no further action unless indicated.

February 10, 1986

To: File

From: C. L. Cheever *etc* Manager, PFS-WMO

Subject: GASOLINE SPILL DURING TANKER TRUCK FILLING OF ONSITE SUNOCO STATION UNDERGROUND TANK, FEBRUARY 6, 1986.

An estimated 15 to 20 gallons of gasoline spilled onto the onsite Sunoco Stations's asphalt paved driveway-parking area at about 11:00 AM on February 6, 1986. The spill occurred while the underground no lead gasoline storage tank was being filled by Jeff Hedger of Alton Transport Inc., Palos Hills, Illinois. The spill was noticed by Dan Jakusz, operator of the Sunoco Station, and he communicated it to Phillip Spear (SEC) who was nearby and who immediately dialed 13. It was immediately brought to Jeff Hedger's attention and he shut off the tanker truck filling valve. The Fire Department and Security responded immediately. They started washing down the spill with hose water to avoid a fire. The Fire Department radioed back to have telephone contact made with C. L. Cheever, Environmental Coordinator. C. L. Cheever responded immediately and checked the creek at the station. There was no gasoline in the creek. The runoff from the paved area was heading south down a drainage swale along the west side of Meridian road. C. L. Cheever requested the Fire Department personnel to dig small soil dams in the drainage ditch to keep gasoline from reaching the stream. John Benkert (OHS) happened to come by soon after the incident and stopped to help in the spill counter measures.

The Fire Department contacted Grounds for sand and T. Astorino appeared promptly and a large front end loader bucket full of sand appeared shortly thereafter. The hosing down of the spill area was increased and the small sand dams were shoveled into place and prevented any runoff to the stream.

It was apparent that there was no stream contamination and crews left about noon. C. L. Cheever checked back at 1:10 PM and the gasoline residual was minor and nothing had reached the stream. It was checked again at 2:30 PM and 6:00 PM with no indication of stream contamination.

C. L. Cheever notified R. Mayes (DOE-CH) of the spill and advised that it was controlled.

2.

The cause of the spill was inattention to the filling operation due to a mistaken belief that the 8,000 gallons delivered would fit into the tank. The spillage came out of the gasoline vapor return line.

C. L. Cheever advised Dan Jakusz and his assistant that they should dial 13 immediately if there is a hazardous spill, fire or other emergency.

CLC:djs

cc: R. Bouie  
G. Veerman  
P. Cooper  
J. Maguire  
E. G. Pewitt  
D. P. O'Neil  
T. Astorino